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EXAMINER	
GREENE, JOSEPH L	

ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/821,105	NISHIDA, YOSHIFUMI	
	Examiner	Art Unit	
	JOSEPH GREENE	2451	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 March 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15,19-31 and 34-39* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15, 19-31, 34-39* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-15, 19-31, and 34-39 are currently pending in this application.

2. Claims 1, 10, 14, 24, and 26-27 are amended as filed on 03/11/2010.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-15, 19-31, and 34-39 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. With respect to claims 1, 14, and 26-27, they contain the limitation "**wherein said rate at which acknowledgements are communicated by the receiver comprises the number of back-to-back packets to be sent by the sender per each acknowledgment (ACK) sent by the receiver.**" This limitation can be interpreted as a logical truth stating that the rate of acknowledgements sent by the receiver is the rate of acknowledgement. Furthermore, it is unclear whether the limitation is directed towards a transmitter adjusting its transmission based on the rate of the acknowledgments, simply the sender specifying the acknowledgment rate, or etc. For examination purposes, the limitation will be treated as stating that the receiver specifies the amount of sequential packets to be transmitted. Likewise, claims 2-13, 15, 19-25, 28-31 and

33-39 are dependent upon their respective independent claims and are thus, also rejected.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1-7, 12-15, 19-21, 23, 27-31, 34-37, and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Patel et al. (Patent No. US 6,731,600 B1), hereinafter Patel, in view of Bavadekar (Pre-Grant Publication No. US 2003/0009571 A1).

8. With respect to claims 1, 14, and 27, Patel disclosed a system for controlling network congestion (column 13, 24-30), comprising: a device configured for communicating a sequence of packets over a network; means, within said device, for sending packets of a sequence in a back-to-back nature, wherein back-to-back packets are packets which are communicated, with no delay between the back of one packet and beginning of the next packet, one after another in a single burst within the sequence of packets (column 10, lines 2-12); and means, within said device, for explicitly indicating which packets within said sequence of packets are being sent back-to-back (column 10, lines 5-12), and for setting congestion control parameters for a

sender in response to estimating network bandwidth based on the receipt, by a receiver, of explicit back-to-back packet indications (column 9, lines 61-64 and column 13, lines 24-30),

However, Patel did not explicitly state controlling the length of packet trains transmitted by the sender in response to altering the rate at which receipt acknowledgements (ACKs) are communicated from the receiver to the sender as based on estimated network bandwidth and wherein said rate at which acknowledgements are communicated by the receiver comprises the number of back-to-back packets to be sent by the sender per each acknowledgment (ACK) sent by the receiver. On the other hand, Bavadekar did teach controlling the length of packet trains transmitted by the sender in response to altering the rate at which receipt acknowledgements (ACKs) are communicated from the receiver to the sender as based on estimated network bandwidth (0077, lines 17-33, where avoiding network congestion is taught in 0077, lines 11-15) and wherein said rate at which acknowledgements are communicated by the receiver comprises the number of back-to-back packets to be sent by the sender per each acknowledgment (ACK) sent by the receiver (0077, lines 17-33). Both the systems of Patel and Bavadekar are directed towards monitoring/controlling connection efficiency in a data communication system and therefore, it would have been obvious to a person having ordinary skill in the art, at the time of the invention, to modify the teachings of Patel, to utilize receiver controlled bandwidth congestion correction, as taught by Bavadekar, in order to better provide congestion correction by alleviating a

transmitter from determining ideal transmittal parameters based on what the transmitter assumes is the current network condition.

9. As for claims 2 and 28, they are rejected on the same basis as claims 1 and 27 (respectively). In addition, Patel taught a means for estimating the number of back-to-back packets received by the receiver from the sender and utilizing that information in conjunction with the explicit back-to-back packet indications (column 11, lines 1-4).

10. As for claims 3 and 29, they are rejected on the same basis as claims 1 and 28 (respectively). In addition, Patel taught wherein said estimating of back-to-back packets received from the sender comprises determining the amount of data within acknowledgement packets (ACKs) and/or determining whether transmissions were sent back-to-back in response to examining packet timestamps (column 10, lines 46-52, where this shows the timestamp limitation).

11. As for claims 4 and 30, they are rejected on the same basis as claims 1 and 28 (respectively). In addition, Patel taught wherein said back-to-back estimates are utilized for checking the presence and validity of explicit back-to-back indications from the sender (column 10, lines 2-12, where Patel teaches the estimating and the acts carried out in the claimed limitations are intended use as seen in MPEP section 2106.II.c).

12. As for claims 5 and 31, they are rejected on the same basis as claims 1 and 28 (respectively). In addition, Patel taught wherein said back-to- back estimates are utilized when explicit back-to-back packet indications being received from the sender are either not available or appear erroneous (column 10, lines 2-12, where Patel teaches the estimating and the acts carried out in the claimed limitations are intended use as seen in MPEP section 2106.II.c).

13. As for claim 6, it is rejected on the same basis as claim 1. In addition, Patel taught wherein said setting of congestion control parameters for a sender regulates packet transmissions by said sender in response to available bandwidth between said sender and the receiver (column 9, lines 61-64 and column 13, lines 24-30).

14. As for claims 7 and 15, they are rejected on the same basis as claims 1 and 14, (respectively). In addition, Bavadekar taught wherein the network communications are performed according to a transport control protocol (TCP) (0031, lines 5-8).

15. As for claims 12, 23, and 39, they are rejected on the same basis as claims 1, 14, and 27 (respectively), in addition, Bavadekar taught wherein said congestion control parameters comprise a congestion window value (0077, 11-15, where the slider value is the congestion control value).

16. As for claim 13, it is rejected on the same basis as claim 1. In addition, Patel taught wherein said means for explicitly indicating back-to-back packets and setting congestion control parameters comprises: a computer within said device (column 9, lines 61-64); programming within said computer for, explicitly marking packets, in the sender, according to whether or not they are being sent back-to-back without delays between successive packets (column 10, lines 5-12), estimating bandwidth based on receiving packets from the sender which are marked with back-to-back packet indications (column 9, lines 61-64), determining congestion control parameters in response to said congestion estimating, communicating said congestion control parameters to the sender (column 13, lines 24-30).

17. As for claim 19, it is rejected on the same basis as claim 18. In addition, Patel taught wherein the size of packets being sent is modulated in response to whether or not the packets are sent back-to-back (column 10, lines 2-12).

18. As for claim 20, it is rejected on the same basis as claim 19. In addition, Patel taught wherein said size of packets being sent is reduced from the maximum segment size value according to a predetermined number of bits for indicating whether the packets are being sent back-to-back (column 9, lines 60-64, where the maximum transmission unit is comprised of the maximum segment size).

19. As for claim 21, it is rejected on the same basis as claim 20. In addition, Patel taught wherein said predetermined number of bits can be 1,2 or 4 bits (column 10, lines 5-12, where this shows the one bit limitation).

20. As for claim 34, it rejected on the same basis as claims 27. In addition, Patel taught wherein said explicit back-to-back packet indications comprise modulating the setting of the maximum segment size (MSS) for indicating back-to-back status of packets being transmitted (column 9, lines 60-64, where the maximum transmission unit is comprised of the maximum segment size).

21. As for claim 35, it is rejected on the same basis as claim 34. In addition, Patel taught wherein said predetermined number of bits can be 1, 2, or 4 bits (column 10, lines 5-12, where this shows the one bit limitation).

22. As for claims 36 and 37, the combination of Patel and Bavadekar disclosed all of the limitations described in claims 27 and 36 (respectively). In addition, Bavadekar taught a means for the receiver to control packet train size in response to bandwidth estimations by changing a rate value m at which receipt acknowledgements (ACKs) are communicated from the receiver to said sender (0077, lines 17-33).

23. Claims 10, 24, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Patel, in view of Bavadekar, and in further view of Matsunaga (Pre-Grant Publication No. US 2002/0141448).

24. As for claims 10 and 24, they are rejected on the same basis as claims 27 and 36 (respectively), but while Patel did provide a method to indicate that said packets are being sent back-to-back (column 10, lines 5-12) and that there are other means of doing as much (column 10, lines 46-52), Patel did not explicitly state that one of the other means was by explicitly editing the maximum segment size. However, Matsunaga did teach editing the maximum segment size to provide an indication (0074, lines 6-12 and 0085, lines 1-7). Both the systems of Patel and Matsunaga are directed towards systems for regulating congestion control parameters and therefore, it would have been obvious to a person having ordinary skill in the art, at the time of the invention, to combine the teachings of Patel, to utilize MSS modulation indications, as taught by Matsunaga, in order to provide less packet overhead by not requiring bits for packet indications, Thus increasing the systems speed.

25. With respect to claim 26, Patel disclosed a system for controlling network congestion (column 3, lines 24-30), comprising: a device configured for communicating over a network; a processor within said device configured for controlling the sending and receiving of packets over said network; and programming configured for executing on said processor for, sending packets of a sequence in a back-to-back nature in a

single burst in which there is no delay between the back of one packet and the beginning of the next packet (column 10, lines 2-12), explicit marking of packets which are sent back-to-back (column 10, lines 5-12), estimating network bandwidth in response to receipt of explicit indications of back-to-back packets or utilizing back-to-back packet estimations (column 9, lines 61-64 and column 13, lines 24-30).

However, Patel did not explicitly state controlling the length of packet trains transmitted by the sender in response to altering the rate at which receipt acknowledgements (ACKs) are communicated from the receiver to the sender as based on estimated network bandwidth and wherein said rate at which acknowledgements are communicated by the receiver comprises the number of back-to-back packets to be sent by the sender per each acknowledgment (ACK) sent by the receiver. On the other hand, Bavadekar did teach controlling the length of packet trains transmitted by the sender in response to altering the rate at which receipt acknowledgements (ACKs) are communicated from the receiver to the sender as based on estimated network bandwidth (0077, lines 17-33, where avoiding network congestion is taught in 0077, lines 11-15) and wherein said rate at which acknowledgements are communicated by the receiver comprises the number of back-to-back packets to be sent by the sender per each acknowledgment (ACK) sent by the receiver (0077, lines 17-33). Both the systems of Patel and Bavadekar are directed towards monitoring/controlling connection efficiency in a data communication system and therefore, it would have been obvious to a person having ordinary skill in the art, at the time of the invention, to modify the teachings of Patel, to utilize receiver controlled bandwidth congestion correction, as

taught by Bavadekar, in order to better provide congestion correction by alleviating a transmitter from determining ideal transmittal parameters based on what the transmitter assumes is the current network condition.

while Patel did provide a method to indicate that said packets are being sent back-to-back (column 10, lines 5-12) and that there are other means of doing as much (column 10, lines 46-52), the combination of Patel and Bavadekar did not explicitly state that one of the other means was by explicitly editing the maximum segment size. However, Matsunaga did teach editing the maximum segment size to provide an indication (0074, lines 6-12 and 0085, lines 1-7). Both the systems of Patel and Matsunaga are directed towards systems for regulating congestion control parameters and therefore, it would have been obvious to a person having ordinary skill in the art, at the time of the invention, to combine the teachings of Patel, to utilize MSS modulation indications, as taught by Matsunaga, in order to provide less packet overhead by not requiring bits for packet indications, Thus increasing the systems speed.

26. Claims 11, 22, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Patel, in view of Bavadekar and in further view of Zhang et al. (Pre-Grant Publication No. US 2005/0144303 A1), hereinafter Zhang.

27. As for claims 11, 22, and 38, they are rejected on the same basis as claims 1, 14, and 27 (respectively), but the combination of Patel and Bavadekar did not explicitly state wherein said congestion control parameters comprise a slow start threshold.

However, Zhang did teach wherein said congestion control parameters comprise a slow start threshold (0009, all). Both the systems of Patel and Zhang are directed towards increasing efficiency of communication in a network and therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the teachings of Patel to modulate further elements that affect network congestion, as taught by Zhang, In order to improve the efficiency of the system by increasing the amount of factors taking into account when conducting network congestion procedures.

28. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Patel, in view of Bavadekar, and in further view of Official Notice.

29. As for claim 25, Patel did not explicitly state wherein said marking of packets is performed for every packet sent or performed in response to congestion. However, the examiner gives official notice that Patel's system could mark any amount of packets that it would find sufficient to complete its tasks and therefore, it would have been obvious to modify the teachings of Patel in order to mark every packet, but is likely not done because it would increase the overhead of the system.

Response to Arguments

30. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

31. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSEPH GREENE whose telephone number is (571)270-3730. The examiner can normally be reached on Mon - Thu, 8:00AM - 4:00Pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on 5712723964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JLG

/HASSAN PHILLIPS/

Primary Examiner, Art Unit 2451